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OVERWORK AS RELATED TO INSANITY.

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Public and professional interest in the subjects of insanity and the insane has been increasing for many years.

Public interest in these subjects has increased, because of a general undertaking on the part of civilized States to make public provision for the custody and treatment of all insane subjects or citizens, out of which have grown questions of taxation for building, maintaining, and governing institutions for their accommodation. Professional interest has increased, because of the general recognition, on the part of the medical profession, of definite relations of all psychical phenomena (orderly or disorderly) to antecedent conditions of physical structures, of a physiological or pathological character, out of which have grown questions of etiology and treatment.

In medical inquiries questions of etiology always become precedent; and medical men are persistently inquiring into the probable causes of insanity. It is not sufficient to be told that all diseases, or disturbances, of any of the organs of the body by which the organs of mind may be so affected as to be unable to perform their functions in an orderly manner, are causes of insanity; the inquisitive questioner will go back of these disturbed conditions, and inquire what causes them.

In this country the people, including a large proportion of professional men, have accepted a popular theory of causation, as related to insanity, that, like all other popular opinions, has for its support a wide basis of appearances. According to this

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theory, "overwork" is the great factor of causation to which insanity is to be ascribed. Mental failure or derangement of persons of distinction is always attributed, as a matter of courtesy if nothing more, to overwork. All insane persons when brought to insane asylums for treatment, if not too wild or too stupid to be interested in their environments, are constantly assured by their friends that the object of bringing them is to give them an opportunity to rest.

An apparently alarming and much-talked-of increase in the number of insane persons in this country is ascribed, by common consent, to the restless industry, enterprise, and push in business affairs, of the American people. The subject of overwork is therefore worthily of the most careful consideration. Consideration of this subject may be profitably systematized by inquiring:

- (a) What is work?
- (b) What are the relations of work to the structures of the body? (1) Physiological; (2) pathological.

"Work" is a word common to all tongues of Germanic origin. It signifies, genetically, "action." To work is to act, to move, to perform functions. A locomotive works, when in motion. So does a watch or a windmill. Every motion of a living body is work. Every manifestation of a performed function is a sequence of work.

Every organized structure is capable of working while living; and the performance of function, or work, is not only in accordance with such capability, but is essential to structural integrity—being responsive to organic necessities.

Work therefore is, in its primary relations to all living structures, strictly physiological.

But capability of matter to move, to act, to work, implies force—force in a state of activity; which implies a liberation of force from a state of rest or imprisonment; which implies a

dissolution of material structures in which it had been imprisoned by a previous process of involution; which implies a limitation of capabilities and the necessity of compensatory alternations of evolution and dissolution for the maintenance of structural integrity and the performance of uses.

Such alternations of work and rest, such compensations of waste by supply, are, indeed, imperative. Destroy the balance between work and rest; between the integration and disintegration of matter, and consequent involution and evolution of force, and pathological conditions will inevitably obtain.

The same law, or uniform procedure attended by uniform manifestations, obtains, whether the material structures endowed with working capabilities are simple or complex: whether the work they perform is responsive to the necessities of the organ performing it, or to the necessities of other organs with which it is united for the formation of a more complex being.

Loss of balance between constructive and destructive activities is, in fact, precedent to all conditions of disease, as well as to the natural decline of capabilities incident to age terminated by death.

In strictly physiological relations, work, or the performance of functions, is limited by natural exhaustion within the bounds of structural integrity. A weary muscle contracts with constantly diminishing energy. A weary brain thinks but sluggishly. It is by such inactivity that healthy structures protect themselves from injury. It is only by stimulation that structures thus limited can be made to perform functions at the expense of their own integrity. Work, under such circumstances, becomes "overwork," the relations of which to the mechanisms implicated may become pathological.

That "overwork," as thus defined, is a cause, immediate or remote, of pathological conditions manifested by mental disorder of every variety, can not be denied. And if the popular

theory of overwork as the all-prevailing cause of insanity were based upon such physiological considerations, it might be accepted with but little qualification, as sufficient and true. But such is not the case. The popular theory of overwork, as the cause of insanity, is not based upon physiological considerations; nor does it embrace the all-important factor of involuntary labor of material mechanisms effected by precedent stimulation, whereby pathological conditions of such mechanisms are established. The term "overwork," as popularly construed in its relations to insanity, means voluntary exertion of natural capabilities, and is referred, not to the activities of material mechanisms subject to physiological laws and limitations, but to mental capabilities, of a hypothetical, immaterial entity called "*the mind.*" Overwork, as thus estimated and referred—it is needless to say—is not the supreme factor in the causation of insanity. Yet it may not be unprofitable to distinguish the errors that enter into and vitiate this popular theory.

These errors consist of mistaken notions concerning work—concerning *that which works*—and the result or consequences of work.

The most important of these errors is the mistaken notion respecting *that which works* in the production of mental phenomena—the ascription of capabilities and the performance of functions to a supersensuous, hence a hypothetical, entity called "*the mind*" or "*soul*"; whereas it is now recognized as a fact by science that all psychical phenomena, however simple or complex, are but manifestations of antecedent conditions of activity of material mechanisms called brains.

Mind, whether considered by groups of psychical phenomena or as an aggregation of mental manifestations, is strictly phenomenal; is an appearance, not a substance; is a subjective, not an objective, fact that can not be converted into an entity otherwise than by some metaphysical thaumaturgy or mythopœic personification. Sensations are not also the organs of sense. Though

is not also that which thinks. Sensations, perceptions, memories, imaginations, ratiocinations, are, each and all, states of consciousness, differing only in degree of complexity, of certain specialized condition of matter. States of consciousness responsive, primarily, to the necessities of the organs so specialized as to become conscious; and, secondarily, to the necessities of whole beings of which such specialized organs are the supreme elements.

Is this incredible? Have we so long and habitually accepted the hypotheses of remote ancestors (however undeveloped, ignorant and incapable) as absolute truth, that we can not now emancipate ourselves from the despotism of superstition, and recognize the facts and phenomena with which we are surrounded in the broad light of intellectual freedom?

Is it really more incredible that an aggregation of material living mechanisms—a man as we see him—should manifest capabilities of consciousness, and power to think, to will, and to do, than that an immaterial being, of which we have no experimental knowledge, should be so capable? Are the ultimate facts respecting any one thing in nature more incomprehensible than similar facts pertaining to other things?

The second error of importance that vitiates this popular theory of causation of insanity is an ascription of mental disorder to overwork of mental organs, alone or chiefly, in a legitimate performance of mental functions.

The fact is, as before stated, the functional capabilities of such organs are self-limited, and they protect themselves from injury by overwork, if not goaded and driven to excess by extrinsic influences—such as toxic stimulation or the overdrafts of other organs dependent upon them for direction and energization. The brain (assuming now that by the term “the mind,” commonly employed, the brain is referred to as the organ of mind) being, as it is, the supreme structural result of organization, is more liable to impairment by the overdrafts of other organs of the body to

the necessities of which it is responsive, or by the failure of other organs to respond to its necessities, than by any amount of activity in the performance of its supreme functions of ideation.

An exhausted brain, if exhausted by the voluntary performance of its legitimate work, will cease to perceive, remember, or think, during a recuperative period of unconsciousness, if neither whipped nor spurred by extrinsic influences. It will recover spontaneously from even the exhaustion or paralysis of excessive involuntary emotion or shock, if no structural lesion, effected by violence through its systemic circulation, attend or succeed such exhaustion—provided the heart, lungs and stomach, or other organs of importance, do not fail to perform their ordinary functions in an ordinary manner.

But however interesting the consideration of physiological facts and principles, the busy practitioner of medicine will inevitably appeal to well-observed cases and clinical histories for confirmation or refutation of advanced propositions coming within the lines of his professional investigation. Such an appeal is always "in order." The following cases are therefore presented for consideration:

CASE I. A. B., male, aged nineteen, tall, rather slender, but fairly developed; head small, cranium rhombocephalic; a college student, withdrawn from school because of mental failure and disorder. Pathological conditions not apparent. Mental symptoms first appeared three months since. First mental symptoms—patient became despondent and indifferent; soon after excitable and violent; is now listless, dull, and confused. Prominent physical symptoms: insomnia, anorexia, constipation of bowels, coated tongue, loss of flesh; cool, dry, harsh, and inelastic skin. According to his mother's representations he was always, till now, a hearty, active, and unusually promising boy; fond of learning, and an ambitious student. Strictly moral by nature and education, his mother is sure he has never contracted nor in-

dulged any of the vicious appetites ordinarily destructive of health. No possible hereditary taint. "None of his ancestors were ever insane." "He has studied too hard—that is all; over-worked his mind."

Such is the clinical history of this case, as furnished by the patient's mother. The following additional history was obtained from the family physician, the father of the patient, some of his college class-mates, and other trustworthy sources of information: Patient's paternal grandfather was an eccentric man—amassed a large fortune, and died of brain disease, paralytic. Patient's father is a man of fair *physique* and medium mental capabilities. Fathers brothers—one died insane, and one is, or has the reputation of being, "below par" intellectually. Patient's maternal grandfather was an intemperate man. His (patient's) mother is, and always has been, a great sufferer from neuralgias—cerebral and spinal—and other neuroses causing hysteria and other disorders. Two of her sisters have been similarly afflicted.

After entering college patient became addicted to the use of tobacco, and was quite as assiduous in his endeavors to color a meerschum pipe as he was in his efforts to master foreign tongues and dead languages. Sexually precocious, he had indulged his appetite to the full extent of his capabilities, by keeping, in company with some other young "bloods" a little private harem, of which his mother had no knowledge. He had suffered somewhat from gonorrhea, but much more from reading the books and newspaper advertisements, and taking the nostrums, of a class of vile specialists, by whose practices more youths are frightened into insane hospitals than are driven there by the evils that they propose to remedy for a consideration. He indulged, also, in an occasional "spree," drinking to intoxication.

CASE II. C. D., male, aged forty-seven; large and well proportioned; ordinary weight, one hundred and ninety-six pounds;

large head, cranium mesocephalic; an educated man, with literary tastes, but devoted to business pursuits. Highly successful as a merchant; had accumulated a fortune. Married young. The father of a large family. Domestic relations always happy. Conduct, private and public, always exemplary. Noted for close and unremitting attention to his own affairs. Never sick previous to present illness. First indication of impairment, noticed by himself, was an inability to add up a column of figures with usual facility and accuracy. No unusual physical disorder recognized. Became alarmed and somewhat despondent. Consulting physicians diagnosed "incipient softening of the brain," and recommended travel for the sake of rest. Friends started with him for an extended tour by rail. After three or four days of this kind of "rest" he became excitable and delirious. Returned, and reached the hospital, a maniac, in shackles. Cause assigned—"overwork" of the mind; "mental strain." No hereditary predisposition admitted.

After he was sufficiently restored, the patient himself furnished the following additional history:

Patients father was a man of large and varied capabilities. Died of brain disease—probably "softening"—at the age of forty-eight. Of patient's brothers—one died of self-inflicted violence without sufficient provocation. One is a periodical drunkard, fashionably called a "dipsomaniac." One is a man of large intellectual possibilities, but is always out of harmony with his environments, socially and politically.

After many years of uninterrupted attention to business, patient found himself incapable of performing his accustomed task without an unusual sense of fatigue. Refusing to recognize the encroachment of age, and unwilling to accept the inevitable and govern himself accordingly, he resorted to whisky as a stimulant "to keep himself up." He drank, as he did every thing else, methodically and unostentatiously. No one but himself

knew that he drank at all. Whisky failing to compensate the loss of energy incident to age, he added quinine to his drink. This answered the purpose for a time, but an inability to sleep, by and by, complicated his embarrassment. To overcome this trouble he took chloral hydrate every night for a year and a half before the final break-down.

These two cases furnish typical histories, and illustrate the previous propositions. If read with such variations of details as they will bear without changing general features, they may be taken as the histories of a large majority of insane persons whose disorders are attributed to excessive mental labor, overwork of "the mind" or brain.

But however typical these cases, there are other facts, clinical and statistical, that may be considered with propriety in this connection.

Recognizing and admitting the many sources of error and imperfections that vitiate the statistics of our official hospital reports, it is still true that we may derive some trustworthy and significant information from them.

For example, the official reports of all the hospitals and asylums for the insane, in this and other countries, show the fact that the greater number of insane persons constituting their populations are, and ever have been, conspicuously unintellectual by nature and acquirements; belonging to classes of society engaged in other than intellectual pursuits. Also the facts that a large majority of persons of higher orders of mental capabilities engaged in pursuits calling for great intellectual activity, who become insane, present clinical histories implicating other organs than the brain, and other causes of brain disorder than excessive intellectual activity, in the causation of insanity.

From October, 1870, to October, 1876, I admitted to a large public hospital for the insane, 1,204 men supposed to be insane. There was no other hospital for the insane, public or private, in

the State at that time, and no distinction was made in favor of or against any class of citizens in the State, except idiots and persons who had been insane over one year. These were, theoretically, excluded.

Of these 1,204 men, but 17 had received, even nominally, an academic education. But 25 of them were, even professedly professional men. Of these 25, there were lawyers, 12, doctors, 9, preachers, 4. Of other men who presumptively "lived by their wits," or brain labor, there were, actors, 1, authors, 1, editors, 1, musicians, 1, insurance agents, 3, and gamblers, 1; making a total, with the professional men, of 38; or a fraction over three per cent of the whole number admitted, whose occupations would justify even a presumption that "mental strain," or "over-work," of an intellectual kind might have been the exciting cause of their disorders: and the following facts show that such a presumption would have been violent and erroneous:

Of the twelve lawyers, three only were men of more than ordinary capabilities or attainment in their profession. The nine others were what are called in Indiana "constitutional lawyers," or persons "admitted to the bar" under a provision of the constitution of that State requiring only a certificate of good moral character as a preliminary qualification. Not one of the nine became insane as a consequence of overwork of a professional character.

The most notable of the three educated and distinguished lawyers had reached an age and condition of senility. His mental impairment was incidental to natural atrophy of the brain. Both the others had been notoriously intemperate in the use of alcoholic drinks and tobacco, by which the balance between activity and repose, nutrition and detrition, is so often and so violently disturbed. Both had overworked their organs of reproduction, and suffered syphilitic contamination to an extent that would justify the assertion,

“Impurity

Hath made a feast upon their bones.”

All three died. One by reason of natural limitations, one by premature decay of brain effected by disease, and one by disintegration of the lungs.

Of the nine other lawyers similar clinical histories might have been recorded. Details are unnecessary.

Of the so-called doctors, not one was a man of any considerable ability or attainment. They were neither students nor thinkers, in or out of the profession. They were men of inferior cerebral development, and had not overworked such brains as they had. Inherited deficiencies and defects of organization; night-riding and exposure in miasmatic districts; whisky-drinking, opium-eating, tobacco-chewing, and other excesses; together with general ignorance and neglect of personal hygienic necessities; poverty and the disadvantageous struggle of incompetency with the necessities of being, would figure conspicuously in the clinical history of the lot as I remember them.

The four preachers, I am constrained to say, in the language of Falstaff, were “mortal men, mortal men,” all of them. One was old, and had been a theological “crank” all his lifetime. In other words, he was born and had lived in the border-land of insanity, which was his natural heritage. Indigestion, if not inanition, neuralgia and rheumatism, had aided time in destroying the balance of organic activities. One was epileptic. The two others were half-starved and otherwise devitalized victims of untoward circumstances—the most untoward of which was that of birth—the deficiencies and depravities incidental to their first births having been not fully remedied by the process of being “born again.”

Further illustration is unnecessary. Recollections of more than four thousand insane persons, men and women, who came more or less instructively under my personal observation while

conducting a large public hospital for the insane, from 1868 to 1879, aided by a review of statistics, from which I can draw more information than can be drawn by any person not familiar with the materials that serve as a basis for such statistics, do not change the conclusions already inferred; nor do the observations, more fully and studiously conducted, of the inmates of a private hospital for the insane, covering a period of six years, although a large proportion of such inmates are derived from classes of society of a much higher grade of intellectual capabilities and attainments than characterize the population of public hospitals.

The same general elements of disorder and factors of causation of insanity may be seen through all disguises: viz., inherited potentialities of insanity pertaining to peculiarities of organization, operated upon by a great variety of influences, emanating chiefly from conditions of deprivation or excess incident to modes of living.

The conclusion, therefore, may be stated, that while overwork in a general sense is a prominent factor in the causation of diseases, some of which are manifested by mental disorder or insanity, overwork in the performance of mental functions is not a sole or frequent cause of such diseases.

COLLEGE HILL, O.

